



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/693,636

10/24/2003

Angus Steele

1-24389

8883

4859

7590

08/16/2006

MACMILLAN SOBANSKI & TODD, LLC
ONE MARITIME PLAZA FIFTH FLOOR
720 WATER STREET
TOLEDO, OH 43604-1619

EXAMINER

COLLADO, CYNTHIA FRANCISCA

ART UNIT

PAPER NUMBER

3618

DATE MAILED: 08/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/693,636	Applicant(s) STEELE ET AL.	
	Examiner Cynthia F. Collado	Art Unit 3618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 5, 7-13, 16 and 19-21 is/are rejected.
- 7) ☒ Claim(s) 3, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/30/2003</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Response to Amendment

Applicant submitted an amendment dated June 15, 2006, wherein Claims 1, 3, 5, 7-13 and 16 have been amended. New claims 17-21 have been added.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-5, 7-13, 16, 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamen et al (US Pub No 2003/0226698).

Regarding claim 1, Kamen discloses the following elements:

- A device for sensing an angle of a surface on which the wheelchair is supported relative to vertical (see figure 1, element 112) also see (column 2, paragraph 0027)
- A controller receiving input from the one or more devices, wherein the input corresponds to an angle of the surface on which the wheel chair is supported (see figure 1, element 106) also see (column 2, paragraph 0028)
- One of either control algorithm or lookup table used by the controller to control drive parameters of the wheelchair according to the input from the

one or more devices in order to prevent an unstable condition from occurring (column 2, paragraph 0030)

Regarding claim 2, Kamen discloses the following elements:

- One or more devices are absolute angle sensors (column 2, paragraph 0029 and 0030).

Regarding claim 4, Kamen discloses the following elements:

- An algorithm is a mathematical control algorithm (column 3, paragraph 0030), and (figure 8).

Regarding claim 5, Kamen discloses the following elements:

- Drive parameters controlled by the controller including one or more of the wheelchair acceleration, wheelchair deceleration, turning acceleration or deceleration, velocity, and turning radius (column 2, paragraph 0028).

Regarding claim 7 and 8, Kamen discloses the following elements:

- Devices for sensing at least one of a pitch angle or a roll angle of a surface on which the wheelchair is supported (see figure 1, element 112) also see (column 2, paragraph 0027), a controller receiving input from the one or more devices, the controller prevents wheelchair from changing from a configuration supporting a wheelchair occupant in a seated position to a configuration

supporting a wheelchair in one reclined, tilted, lifted or standing position (see column 2, paragraph 0028).

Regarding claim 9, Kamen discloses the following elements:

- One or more devices are absolute angle sensors (see column 2, paragraphs 0029 and 0030).

Regarding claim 10, Kamen discloses the following elements:

- Devices are inclinometers (column 3, paragraph 0043), (column 2, paragraph 0028) and (figure 3).

Regarding claim 11, Kamen discloses the following elements:

- Discloses one or more drive wheels supporting the frame relative to a supporting surface (see figure 1, element 102), one or more drive motors for driving the one or more drive wheels (see figure 3, elements 311 and 312), one or more devices for sensing the angle of the supporting surface (see figure 3, elements 302 and 303), a controller connected to the one or more sensing devices for receiving input data from the one or more sensing devices corresponding to the angle of the supporting surface, wherein the controller controls drive parameters of the one or more drive motors according to a combination of input data including the input

data from the sensing devices and input data from the one or more drive motors corresponding to the velocity of the drive motors, and wherein the drive parameters controlled by the controller include one or more of wheelchair acceleration, deceleration, turning acceleration or deceleration, velocity, or turning radius to insure dynamic stability of the wheelchair (see column 2, paragraphs 0027,0028 and 0029).

Regarding claims 12 and 13, Kamen discloses the following elements:

- The wheelchair is adapted to be configured to various configurations and the controller prevents the wheelchair from changing to a less stable one of the configurations when the controller senses an input from at least one of the one or more devices indicating that the wheelchair is on a supporting surface with sufficient incline, controller prevents the wheelchair from changing from a configuration supporting a wheelchair occupant in a seated position to a configuration supporting a wheelchair in one of a reclined, tilted, lifted, or standing position when the controller senses an input from at least one or more devices indicating that the wheelchair is on a supporting surface with sufficient incline (see figure 1, element 106) also see (column 2, paragraph 0028).

Regarding claim 16, Kamen discloses the following elements:

- One or more steering motors at least one of the one or more drive wheels, the controller further controlling parameters of the one or more steering motors according to the combination of input data (see column 2, paragraph 0025)

Regarding claim 19-21, Kamen discloses the following elements:

- A device for sensing an angle of a surface on which the wheelchair is supported relative to vertical (see figure 1, element 112) also see (column 2, paragraph 0027)
- A controller receiving input from the one or more devices, wherein the input corresponds to an angle of the surface on which the wheel chair is supported (see figure 1, element 106) also see (column 2, paragraph 0028)
- One of either control algorithm or lookup table used by the controller to control drive parameters of the wheelchair according to the input from the one or more devices (column 2, paragraph 0030)
- Wheelchair can be operated at a first elevated dynamic performance level when the angle of the surface is below a maximum incline and a second reduced dynamic performance level when the angle of the surface exceeds the maximum incline (column 3, paragraph 0042)

- The maximum incline is in a range of about 9 degrees and about 14 degrees.
- The maximum incline is in a range of about 9 degrees and about 14 degrees (column 3, lines 29-32).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 6, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamen et al'698 (Us Pub No 2003/0226698) in view of Koerlin et al'265 (Us Patent No.6, 409,265).

Kamen does not specify "maximum" wheelchair acceleration, deceleration, it would have been obvious to one having ordinary skill in the art at the time the invention was made that a gear would not supersede "maximum" knowing the probability of pedestrian injury and damage to the driving mechanism will occur.

Koerlin et al discloses a wheel chair comprising an articulating seat, the controller receiving input data from the articulating seat corresponding to the position of the seat and further controlling the articulating seat according to the combination of input data and the input data from the articulating seat (see column 2, lines 49-66), Koerlin also discloses the articulating seat has a recline actuator decoder and the input data from the articulating seat is sensed by the controller from a recline actuator decoder (see column 3, lines 54-64).

Response to Arguments

Applicant's arguments filed 6/15/2006 have been fully considered but they are not persuasive.

Applicant argued the rejection of claim 1 under 35 U.S.C 102(e) was improper because Kamen fails to disclose a controller that controls drive parameters to prevent an unstable condition from occurring. However, in response to applicant's argument, Kamen does disclose a controller (106) in which control the drive parameters to prevent an unstable condition from occurring (column 2, paragraphs 0027-0030). Therefore, the 102(e) rejection is proper and maintained.

Regarding claim 7, applicant argued that the rejection was improper because Kamen fails to disclose a wheelchair having a configuration that can be changed, however

examiner disagrees with applicant because Kamen discloses the wheel chair having a configuration that can be changed in (col 3, paragraph 0043), examiner takes the wheel chair leaning forward or backwards to be a change of configuration. Therefore, the 102(e) rejection is proper and maintained.

In addition applicant claims that Kamen fails to disclose a wheelchair controller that prevents the wheelchair from being changed to a less stable configuration when the controller senses input from an input device indicating that the wheelchair is on a support surface having a sufficient incline, however examiner disagrees with applicant for the reason that Kamen teaches the controller consisting of sensors and input devices in which allows the user to turn dynamic stabilization and power assistance off and on in which prevents the wheel chair from being changed to a less stable condition. Therefore, the 102(e) rejection is proper and maintained.

Regarding claim 11, Applicant also claims that Kamen fails to disclose a wheelchair controller that controls drive parameters to insure dynamic stability of a wheelchair, however examiner disagrees with applicant for the reason that Kamen does disclose drive parameters to achieve dynamic control for providing dynamic stability to the system in (column 2, paragraph 0030-0037). Therefore, the 102(e) rejection is proper and maintained.

Allowable Subject Matter

Claims 3,17-18 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

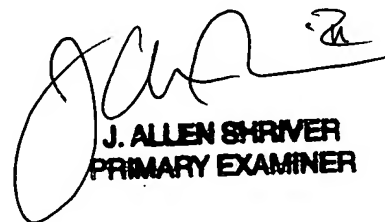
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia F. Collado whose telephone number is (571)2728315. The examiner can normally be reached on mon-fri 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Ellis can be reached on (571)2726914. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CFC



J. ALLEN SHRIVER
PRIMARY EXAMINER